CENTERS FOR DISEASE CONTROL

MMWR

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Recommendation of the Immunization Practices Advisory Committee (ACIP)

Influenza Vaccines, 1983-1984

This revision of the influenza vaccine recommendations updates information on influenza activity in the United States for the 1982-1983 influenza season (superseding MMWR *1982;31:349-53) and provides information on the vaccine available for the 1983-1984 influenza season.*

INTRODUCTION

Influenza virus infections occur every year in the United States but vary greatly in incidence and geographic distribution. Infections may be asymptomatic, or they may produce a spectrum of manifestations ranging from mild upper-respiratory infection to pneumonia and death. Influenza virus types A and B are responsible for only a small proportion of all respiratory disease, but they are unique in their ability to cause periodic widespread outbreaks of febrile respiratory illness among adults and children.

Influenza epidemics are frequently associated with deaths in excess of the number normally expected. More than 200,000 excess deaths are estimated to have occurred in association with influenza epidemics in the United States during 1968-1982. Excess deaths in this period were attributable mainly to influenza A viruses, although influenza B epidemics were occasionally associated with excess deaths, as in 1979-1980. Epidemics of influenza B, and to a lesser extent, influenza A infection have been associated with an increased incidence of Reye syndrome among children and adolescents in the United States.

Efforts to reduce the impact of influenza in the United States have been aimed at protecting persons at greatest risk of serious illness or death. Observations during influenza epidemics indicate that most influenza-related deaths occurred among two groups of persons: the chronically ill and the elderly. Annual vaccination is, therefore, recommended for these medically high-risk persons.

Influenza A viruses are classified into subtypes on the basis of two antigens: hemagglutinin (H) and neuraminidase (N). Three subtypes of hemagglutinin (H1,H2, H3) and two subtypes of neuraminidase (N1, N2) are recognized among influenza A viruses that have caused widespread human disease. Immunity to these antigens, especially hemagglutinin, reduces the likelihood of infection and the severity of disease if a person does become infected. However, there may be sufficient antigenic variation (antigenic drift) within the same subtype over time, so that infection or vaccination with one strain may not induce immunity to distantly related

Influenza Vaccine — Continued

strains of the same subtype. Although influenza B viruses have shown much more antigenic stability than influenza A viruses, antigenic variation does occur. As a consequence, the antigenic characteristics of current strains provide the basis for selecting virus strains to be included in the vaccine.

During the 1982-1983 winter, influenza activity occurred at moderate levels in the United States. The number of virus isolates reported to CDC was more than double that of the 1981-1982 winter when influenza activity was generally low. Excess mortality was slightly elevated throughout the epidemic period, starting in January 1983. The viruses implicated as the major cause of nationwide epidemic activity were influenza A(H3N2) strains, and in particular, these H3N2 viruses were shown to cause nearly all outbreaks in nursing home or hospital settings for which laboratory diagnosis was obtained. Influenza A(H1N1) viruses, isolated in about half the states, were not proven responsible for outbreaks in the aged or infirm but occasionally were isolated from school outbreaks, sometimes concurrently with influenza A(H3N2) strains. Influenza B viruses were isolated infrequently early in the season, although their prevalence increased toward the end of the season, including outbreaks in several schools and nursing homes in April and May.

Almost 80% of influenza virus isolates reported in the United States were type A(H3N2) strains, mostly similar to A/Bangkok/79(H3N2), a strain included in the vaccine for the last 3 years. However, variants that are poorly inhibited by animal sera to A/Bangkok/1/79 (reference strain A/Philippines/2/82) have accounted for an increasing proportion of H3N2 strains recovered in Asia since mid-1982 and have also been identified during the 1982-1983 winter in Europe and North America. These considerations and animal studies showing that A/Philippines/2/82 induces antibodies that react broadly with the Bangkok strain, as well as with other recent variants, suggest that the A/Philippines/2/82 strain should replace the A/Bangkok/79(H3N2) component in the vaccine. Antigenic analysis of influenza A(H1N1) viruses isolated in recent months confirms their close resemblance to A/England/333/80 strains that have circulated during the past 2 years. Measurement of antibody responses of persons receiving vaccines containing A/Brazil/11/78 antigen, however, continues to indicate that these vaccines should protect against A/England/333/80-like strains. Antigenic analysis of influenza B viruses isolated during the past year shows that these strains remain similar to B/Singapore/222/79, a strain included in the vaccine for the past 3 years.

INFLUENZA VACCINES FOR 1983-1984

The specific antigens and their potency in the 1983-1984 vaccine will be: 15 μg each of hemagglutinin of A/Brazil/78(H1N1), A/Philippines/82(H3N2), and B/Singapore/79 viruses per 0.5-ml dose.

Adults and children older than 12 years will require only one dose. Children 12 years of age and younger are less likely than older children or adults to have been previously infected with strains related to each of the vaccine components. Therefore, because of their potentially lower level of immunologic priming, children in the 12-and-under age group should receive two doses of vaccine. However, children who have already had at least one of the influenza vaccines recommended for use from 1978 to 1983 will require only one dose of the 1983-1984 vaccine. The 1983-1984 vaccines will be available as whole-virion (whole-virus) and sub-virion (split-virus) preparations. Past data indicate that split-virus vaccines have been associated with somewhat fewer side effects among children than whole-virus vaccines. Thus, only split-virus vaccines are recommended for those 12 years and under.

Influenza Vaccine — Continued

VACCINE USAGE

General Recommendations

Annual vaccination is strongly recommended:

1. For all older persons, particularly those over 65 years, because the risk of death during influenza outbreaks generally increases with age.

2. For all persons (children and adults) who are at increased risk of adverse consequences from infections of the lower respiratory tract because of a pre-existing medical condition.

Conditions predisposing to such increased risk include:

a) Acquired or congenital heart disease with actual or potential alterations in circulatory dynamics (e.g., mitral stenosis, congestive heart failure, or pulmonary-vascular overload).

b) Any chronic disorder or condition that compromises pulmonary function (e.g., chronic obstructive pulmonary disease, bronchiectasis, heavy smoking, tuberculosis, severe asthma, cystic fibrosis, neuromuscular and orthopedic disorders with impaired ventilation, broncho-pulmonary dysplasia following the neonatal respiratory distress syndrome).

c) Chronic renal disease with azotemia or nephrotic syndrome.

d) Diabetes mellitus or other metabolic diseases.

e) Severe chronic anemia, such as sickle cell disease.

f) Conditions that compromise the immune mechanism, including certain malignancies and immunosuppressive therapy.

In balancing the benefits, risks, and costs for the community, some localities have elected to vaccinate persons who provide essential community services and medical-care personnel who also are at increased risk of exposure. Vaccination of medical-care personnel may also reduce spread of influenza to patients in hospitals and other settings. While consideration should be given to providing vaccine for such groups, vaccination of persons specified to be at high risk should take precedence.

Table 1 summarizes vaccine and dosage recommendations by age group for 1983-1984.

Use in Pregnancy

Physicians should evaluate a pregnant woman's need for influenza vaccination on the same basis used for other persons; i.e., vaccination should be advised for a pregnant woman

TABLE 1. Influenza vaccine* dosage, by age — United States, 1983-1984

Age group	Product	Dosage	Number of doses
6-35 months	Split virus only	0.25 ml†	2§
3-12 years	Split virus only	0.5 ml	2§
over 12 years	Whole or split virus	0.5 ml	1

*Contains 15 μg each of A/Brazil/78(H1N1), A/Philippines/82(H3N2), and B/Singapore/79 hemagglutinin antigens in each 0.5 ml. Manufacturers include Connaught Laboratories, Inc. ("FLUZONE": whole and split), Parke-Davis ("FLUOGEN": split), and Wyeth Laboratories ("Influenza Virus Vaccine, Trivalent": split).

†Based on limited data. Since the likelihood of febrile convulsions is greater for this age group, special care should be taken in weighing relative risks and benefits.

§Four weeks or more between doses; both doses recommended for maximum protection. However, if the individual received at least one dose of any influenza vaccine recommended from 1978-79 to 1982-83, one dose is sufficient.

Influenza Vaccine — Continued

who has any underlying high-risk condition. Only in the pandemics of 1918-1919 and 1957-1958 was there persuasive evidence that influenza infection increased maternal mortality.

There is no evidence to suggest that influenza vaccine carries any maternal or fetal risk, and, because it is inactivated, the vaccine does not share any of the theoretical risks of live-virus-vaccine infection of the fetus. Nonetheless, when vaccine is to be given in pregnancy, waiting until the second or third trimester is a reasonable precaution to minimize any concern over teratogenicity.

Side Effects and Adverse Reactions

Vaccines used in recent years have generally been associated with only a few reactions; less than one-third of vaccinees have been reported to have local redness and induration for 1 or 2 days at the site of injection.

Systemic reactions have been of three types:

1. Fever, malaise, myalgia, and other systemic symptoms of toxicity, although infrequent, most often affect children and others who have had no experience with the influenza virus antigens contained in the vaccine. These reactions, which begin 6-12 hours after vaccination and persist 1-2 days, are usually attributed to the influenza antigens (even though the virus is inactivated) and constitute most of the side effects of influenza vaccination.

2. Immediate, presumably allergic, responses such as flare and wheal or various respiratory expressions of hypersensitivity occur extremely rarely after influenza vaccination. They probably result from sensitivity to some vaccine component—most likely residual egg protein. Although current influenza vaccines contain only a small quantity of egg protein, on rare occasions they can induce hypersensitivity reactions. Individuals with anaphylactic hypersensitivity to eggs should not be given influenza vaccine. This would include persons who, on eating eggs, develop swelling of the lips or tongue or experience acute respiratory distress or collapse.

3. In 1976, a temporal association (i.e., within 10 weeks of vaccination) was noted between administration of A/New Jersey/76 (swine) influenza vaccine and Guillain-Barré syndrome (GBS). Vaccinated adults had an excess frequency of GBS at the rate of approximately 10 cases/million persons vaccinated. This incidence of GBS was five to six times higher than the comparable average reported incidence for unvaccinated persons. An active surveillance system for GBS was initiated in 1978 and was maintained for 3 years. No significant excess risk of GBS was found for recipients of influenza vaccine during the influenza seasons 1978-1979 through 1980-1981. Available evidence indicates that any risk of GBS from influenza vaccine appears to be far lower than the risks associated with influenza among persons for whom the vaccine is indicated.

OTHER MEASURES

Annual vaccination continues to be the most important way to prevent influenza and should be routine for all persons at high risk of serious and/or fatal disease. Measures intended to reduce the likelihood of exposure in community outbreaks, such as limiting the number of gatherings of large groups, may delay spread but are not uniformly effective.

Amantadine hydrochloride, an antiviral drug, can help prevent influenza A for certain persons and circumscribed groups. It is not a substitute for vaccine and is not generally applicable to public health practice, but it may be useful for persons who have not been vaccinated and need protection during outbreaks.

Influenza Vaccine — Continued

Amantadine protects only against influenza A, not influenza B, infection and must be taken each day for the duration of the epidemic (6-8 weeks, generally) or until active immunity can be expected to develop after vaccination (about 10-14 days). Precautions must be taken for patients with certain chronic conditions, and there are sometimes mild but occasionally troublesome side effects—especially among older patients. Amantadine is a prescription drug and must be ordered and monitored by a physician. Dosage, precautions, and other information on use are specified in the drug's labeling.

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Epidemiologic Notes and Reports

Campylobacteriosis Associated with Raw Milk Consumption — Pennsylvania

During May 1983, two outbreaks of gastrointestinal illness following consumption of raw milk occurred in Pennsylvania. A total of 57 people became ill.

The first outbreak occurred following a visit by 60 first-grade students and three teachers to a dairy farm in south-central Pennsylvania. Thirty-one (49%) of the 63 visitors became ill, but no acute gastrointestinal illnesses were reported by members of the farm family. Symp-

Campylobacteriosis – Continued

toms included fever greater than 39 C (102 F) (84%), abdominal pain (81%), vomiting (55%), diarrhea (52%), headache (13%), bloody stool (10%), and myalgia (7%). Onsets of disease ranged from 1 to 8 days (mean 3 days). Illness lasted from 5 hours to 12 days (mean 3.4 days). Sixteen persons saw a physician; none were hospitalized. *Campylobacter jejuni* was found in the stool of the only child who was cultured. Secondary illnesses compatible with *Campylobacter* infection occurred in two households.

Cookies and small cups of raw milk were served at the farm. Each of the 63 visitors drank one cup of raw milk and ate one cookie. Cultures of the raw milk from the farm did not yield *Campylobacter.* No dairy cattle were reported to have been ill, and none were cultured.

The second outbreak occurred on May 20, when 45 persons (43 kindergarten children and two teachers) visited a dairy farm in central Pennsylvania. Subsequently, 26 persons (58%) developed gastrointestinal illness characterized by abdominal pain (73%), diarrhea (69%), fever (58%), nausea (54%), headache (50%), fatigue (38%), vomiting (19%), bloody stools (12%), and myalgia (8%). The incubation period ranged from 2 to 10 days (mean 3.6 days). Duration of illness was 1-14 days (mean 3.5 days). Four children saw a physician, and one was hospitalized. *C. jejuni* was found in two of two stool specimens cultured.

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TABLE I. Summary—cases specified notifiable diseases, United States

Disease	26th Week Ending			Cumulative, 26th Week Ending		
	July 2, 1983	July 3, 1982	Median 1978-1982	July 2, 1983	July 3, 1982	Median 1978-1982
Aseptic meningitis	91	142	142	2,296	2,295	1,821
Encephalitis: Primary (arthropod-borne & unspec.)	22	13	16	433	460	333
Post-infectious	1	3	3	39	50	103
Gonorrhea: Civilian	12,850	17,576	18,569	430,172	466,944	471,737
Military	338	373	443	11,722	13,592	13,493
Hepatitis: Type A	244	505	525	10,944	11,105	13,548
Type B	334	390	390	10,993	10,465	8,438
Non A, Non B	39	40	N	1,624	1,133	N
Unspecified	99	158	176	3,893	4,224	4,973
Legionellosis	14	7	N	372	231	N
Leprosy	-	7	6	127	97	90
Malaria	5	31	25	329	472	472
Measles: Total	13	59	284	1,037	934	10,572
Indigenous	12	N	N	864	N	N
Imported*	1	N	N	173	N	N
Meningococcal infections: Total	52	59	45	1,686	1,804	1,612
Civilian	52	58	45	1,671	1,795	1,601
Military	-	1	-	15	9	11
Mumps	26	66	117	2,054	3,890	6,506
Pertussis	46	29	29	891	558	563
Rubella (German measles)	7	86	108	663	1,695	2,869
Syphilis (Primary & Secondary): Civilian	451	571	520	15,753	16,433	12,907
Military	-	5	5	217	200	160
Toxic-shock syndrome	6	N	N	218	N	N
Tuberculosis	448	452	524	11,299	12,521	13,330
Tularemia	7	6	6	119	89	85
Typhoid fever	6	5	11	169	191	221
Typhus fever, tick-borne (RMSF)	53	36	63	388	371	371
Rabies, animal	76	112	112	3,145	3,159	3,159

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1983		Cum. 1983
Anthrax	-	Plague	15
Botulism: Foodborne (Oreg. 2)	12	Poliomyelitis: Total	1
Infant	34	Paralytic	1
Other	-	Psittacosis	58
Brucellosis (Iowa 1, Mo. 2, Ga. 3, Ark. 1, Tex. 1)	84	Rabies, human	2
Cholera	-	Tetanus	32
Congenital rubella syndrome (Kans. 1)	14	Trichinosis (Conn. 1, La. 1)	20
Diphtheria	-	Typhus fever, flea-borne (endemic, murine) (Tex. 2, Hawaii 1)	22
Leptospirosis	20		

*None of the 13 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 2, 1983 and July 3, 1982 (26th week)

Reporting Area	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy	Malaria
		Primary	Post-infectious			A	B	NA,NB	Unspecified			
	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1982	1983	1983	1983	1983	1983	Cum. 1983	Cum. 1983
UNITED STATES	91	433	39	430,172	466,944	244	334	39	99	14	127	329
NEW ENGLAND	7	17	-	10,975	11,045	3	17	-	17	3	3	17
Maine	1	-	-	572	513	-	1	-	-	-	-	-
N.H.	-	2	-	331	384	-	1	-	-	-	2	-
Vt.	-	1	-	202	222	1	1	-	-	-	-	1
Mass.	4	8	-	4,742	5,149	-	4	-	15	-	-	7
R.I.	-	-	-	587	760	-	-	-	-	-	-	3
Conn.	2	6	-	4,541	4,017	2	10	-	2	3	1	6
MID ATLANTIC	17	54	3	55,556	56,434	51	94	16	7	2	19	45
Upstate N.Y.	4	13	-	8,247	9,063	7	25	5	4	-	-	14
N.Y. City	1	7	-	22,899	23,743	20	9	-	-	-	18	13
N.J.	10	12	-	10,570	10,190	9	28	4	3	2	-	14
Pa.	2	22	3	13,840	13,438	15	32	7	-	-	1	4
E.N. CENTRAL	8	90	9	56,985	66,582	18	46	3	6	6	5	15
Ohio	-	36	6	16,240	18,190	8	17	-	1	6	1	3
Ind.	1	11	1	6,667	7,709	-	2	-	4	-	-	-
Ill.	-	-	-	12,376	19,204	1	5	-	-	-	2	3
Mich.	7	36	-	16,423	15,427	9	22	3	1	-	2	8
Wis.	-	7	2	5,279	6,052	-	-	-	-	-	-	1
W.N. CENTRAL	2	46	5	20,229	21,998	14	9	3	-	1	4	14
Minn.	-	18	1	2,897	3,310	6	-	-	-	-	3	5
Iowa	1	22	-	2,320	2,340	-	-	1	-	1	-	2
Mo.	1	2	-	9,727	10,255	5	9	-	-	-	-	2
N. Dak.	-	-	-	197	295	-	-	-	-	-	-	1
S. Dak.	-	-	2	568	595	2	-	-	-	-	-	-
Nebr.	-	3	-	1,214	1,343	-	-	-	-	-	-	1
Kans.	-	1	2	3,306	3,860	1	-	2	-	-	1	3
S. ATLANTIC	20	72	13	112,431	122,167	46	90	7	23	-	7	52
Del.	-	-	-	1,998	1,845	1	2	-	1	-	-	-
Md.	1	12	-	14,161	15,306	1	9	-	3	-	1	12
D.C.	-	-	-	7,659	6,491	-	1	-	-	-	-	7
Va.	-	20	2	9,622	10,402	6	12	3	4	-	-	6
W. Va.	-	2	-	1,199	1,323	-	1	-	-	-	-	1
N.C.	6	21	-	16,459	19,152	4	14	-	3	-	-	1
S.C.	-	2	-	10,667	11,533	11	4	-	1	-	-	5
Ga.	1	4	-	23,885	23,599	4	22	1	1	-	1	4
Fla.	12	11	11	26,781	32,516	19	25	3	10	-	5	16
E.S. CENTRAL	2	16	-	36,678	39,203	17	23	2	-	-	-	5
Ky.	1	-	-	4,335	5,354	12	5	-	-	-	-	-
Tenn.	1	3	-	14,751	15,328	3	12	1	-	-	-	-
Ala.	-	13	-	11,450	11,554	1	3	1	-	-	-	3
Miss.	-	-	-	6,142	6,967	1	3	-	-	-	-	2
W.S. CENTRAL	20	45	1	61,756	64,447	79	41	1	42	1	14	37
Ark.	1	4	-	4,723	5,329	-	1	1	5	-	-	1
La.	1	6	-	11,065	11,538	17	9	-	1	1	1	4
Okla.	4	9	1	7,311	6,897	10	6	-	2	-	-	8
Tex.	14	26	-	38,657	40,683	52	25	-	34	-	13	24
MOUNTAIN	4	29	3	13,294	15,994	9	4	2	3	1	12	17
Mont.	-	-	-	590	664	-	-	-	-	1	-	-
Idaho	-	-	-	597	756	1	1	-	-	-	-	2
Wyo.	-	2	-	351	459	-	-	-	-	-	-	1
Colo.	1	16	-	3,836	4,170	3	1	1	-	-	2	5
N. Mex.	-	1	-	1,622	2,015	1	-	-	1	-	-	5
Ariz.	U	2	3	3,524	4,490	U	U	U	U	U	9	3
Utah	2	8	-	671	746	2	1	-	-	-	1	1
Nev.	1	-	-	2,103	2,694	2	1	1	2	-	-	-
PACIFIC	11	64	5	62,268	69,074	7	10	5	1	-	63	127
Wash.	3	5	1	4,597	5,527	3	3	3	1	-	10	2
Oreg.	-	-	2	3,247	3,848	4	3	2	-	-	2	4
Calif.	U	55	2	51,438	56,788	U	U	U	U	U	35	121
Alaska	-	-	-	1,640	1,691	-	1	-	-	-	-	-
Hawaii	8	4	-	1,346	1,220	-	3	-	-	-	16	-
Guam	U	-	-	65	72	U	U	U	U	U	-	2
P.R.	1	-	1	1,480	1,523	29	13	-	6	-	-	1
V.I.	U	-	-	129	133	U	U	U	U	U	-	-
Pac. Trust Terr.	U	-	-	-	227	U	U	U	U	U	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 2, 1983 and July 3, 1982 (26th week)

Reporting Area	Measles (Rubeola)					Menin-gococcal Infections	Mumps			Pertussis			Rubella		
	Indigenous		Imported*		Total										
	1983	Cum. 1983	1983	Cum. 1983	Cum. 1982	Cum. 1983	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982
UNITED STATES	12	864	1	173	934	1,686	26	2,054	3,890	46	891	558	7	663	1,695
NEW ENGLAND	-	2	1	11	10	79	1	80	142	1	31	30	1	9	11
Maine	-	-	-	-	-	8	-	15	33	1	3	3	-	-	-
N.H.	-	-	-	1	2	2	-	16	13	-	5	4	-	2	8
Vt.	-	-	-	-	2	3	1	10	5	-	4	1	-	3	-
Mass.	-	2	1§	2	2	28	-	19	65	-	16	10	1	4	-
R.I.	-	-	-	-	-	7	-	9	13	-	3	10	-	-	1
Conn.	-	-	-	8	4	31	-	11	13	-	-	2	-	-	2
MID ATLANTIC	5	57	-	20	134	288	7	158	240	8	238	88	1	122	82
Upstate N.Y.	-	-	-	6	96	92	3	61	50	5	75	54	1	20	40
N.Y. City	5	30	-	10	30	48	4	21	38	2	33	18	-	85	28
N.J.	-	27	-	1	4	48	-	28	36	1	15	7	-	3	14
Pa.	-	-	-	3	4	100	-	48	116	-	115	9	-	14	-
E.N. CENTRAL	6	503	-	51	65	294	8	1,044	2,171	1	192	155	1	94	156
Ohio	-	66	-	13	1	98	4	524	1,531	1	70	36	-	1	-
Ind.	-	340	-	-	2	33	-	25	33	-	16	11	-	20	26
Ill.	6	97	-	33	23	82	-	116	238	-	83	74	1	42	57
Mich.	-	-	-	5	39	58	4	324	279	-	11	8	-	14	42
Wis.	-	-	-	-	-	23	-	55	90	-	12	26	-	17	31
W.N. CENTRAL	-	-	-	-	38	98	1	127	510	8	62	29	-	30	54
Minn.	-	-	-	-	-	15	-	20	395	-	20	11	-	6	4
Iowa	-	-	-	-	-	11	-	35	29	-	5	3	-	-	-
Mo.	-	-	-	-	2	50	-	20	7	1	9	8	-	-	38
N. Dak.	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-
S. Dak.	-	-	-	-	-	4	-	-	1	1	3	3	-	-	1
Nebr.	-	-	-	-	-	1	-	2	-	-	-	1	-	-	-
Kans.	-	-	-	-	36	15	1	50	78	6	24	3	-	24	11
S. ATLANTIC	1	154	-	23	33	351	5	129	215	6	120	76	1	74	63
Del.	-	-	-	-	-	-	-	5	10	-	2	4	-	-	1
Md.	1	1	-	4	2	37	-	23	21	-	8	7	-	1	33
D.C.	-	-	-	-	1	4	-	-	-	-	-	1	-	-	-
Va.	-	11	-	11	14	51	2	23	30	1	41	12	-	1	11
W. Va.	-	-	-	-	2	3	2	28	80	-	4	4	-	-	1
N.C.	-	-	-	-	-	73	-	5	10	3	12	10	1	9	1
S.C.	-	-	-	4	-	38	-	7	12	-	8	9	-	-	1
Ga.	-	8	-	-	-	57	1	38	11	2	27	10	-	11	5
Fla.	-	134	-	4	14	88	-	-	41	-	18	19	-	52	10
E.S. CENTRAL	-	1	-	5	6	102	-	37	32	-	7	19	-	10	37
Ky.	-	-	-	1	1	19	-	15	9	-	2	2	-	9	21
Tenn.	-	-	-	-	5	40	-	18	13	-	2	7	-	-	-
Ala.	-	1	-	4	-	28	-	1	5	-	1	1	-	1	-
Miss.	-	-	-	-	-	15	-	3	5	-	2	9	-	-	16
W.S. CENTRAL	-	34	-	37	12	193	2	144	137	15	122	36	2	94	78
Ark.	-	-	-	11	-	15	-	2	6	1	5	2	-	-	1
La.	-	-	-	25	2	40	-	-	3	-	2	5	-	9	1
Okla.	-	1	-	-	-	23	-	-	-	14	84	3	-	-	3
Tex.	-	33	-	1	10	115	2	142	128	-	31	26	2	85	73
MOUNTAIN	-	1	-	3	6	63	-	84	60	4	79	38	-	22	55
Mont.	-	-	-	-	-	6	-	2	3	-	1	-	-	3	4
Idaho	-	-	-	-	-	5	-	5	3	-	2	6	-	8	4
Wyo.	-	-	-	-	1	1	-	-	2	-	4	1	-	1	5
Colo.	-	-	-	2	5	25	-	10	13	3	52	10	-	-	5
N. Mex.	-	-	-	-	-	5	-	-	-	-	5	4	-	-	5
Ariz.	U	-	U	1	-	13	U	58	24	U	9	16	U	4	7
Utah	-	-	-	-	-	8	-	6	11	1	6	1	-	5	16
Nev.	-	1	-	-	-	-	-	3	4	-	-	-	-	1	9
PACIFIC	-	112	-	23	630	218	2	251	383	3	40	87	1	208	1,159
Wash.	-	1	-	3	30	30	2	38	59	2	6	15	1	7	32
Oreg.	-	5	-	2	4	33	-	-	-	1	6	20	-	12	5
Calif.	U	105	U	18	592	149	U	190	311	U	28	52	U	189	1,114
Alaska	-	-	-	-	1	-	-	10	6	-	-	-	-	-	1
Hawaii	-	1	-	-	3	6	-	13	7	-	-	-	-	-	7
Guam	U	-	U	1	6	1	U	-	3	U	-	-	U	-	2
P.R.	-	82	-	-	73	11	-	102	43	-	7	12	-	3	5
V.I.	U	-	U	5	-	-	U	-	-	U	-	-	U	1	-
Pac. Trust Terr.	U	-	U	-	-	-	U	-	3	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations. U: Unavailable †International §Out-of-state

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 2, 1983 and July 3, 1982 (26th week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1983	Cum. 1982	1983	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983
UNITED STATES	15,753	16,433	6	448	11,299	119	169	388	3,145
NEW ENGLAND	353	276	-	18	313	-	6	1	8
Maine	10	1	-	1	19	-	-	-	2
N.H.	12	2	-	-	23	-	-	-	1
Vt.	2	1	-	3	7	-	-	-	-
Mass.	216	193	-	8	167	-	6	1	2
R.I.	13	14	-	-	21	-	-	-	-
Conn.	100	65	-	6	76	-	-	-	3
MID ATLANTIC	1,966	2,265	-	119	2,057	-	31	9	106
Upstate N.Y.	99	263	-	14	342	-	5	-	38
N.Y. City	1,192	1,346	-	25	827	-	14	1	-
N.J.	395	291	-	23	430	-	10	5	3
Pa.	280	365	-	57	458	-	2	3	65
E.N. CENTRAL	717	1,026	1	82	1,495	2	27	33	263
Ohio	225	145	-	7	230	-	6	25	31
Ind.	73	103	-	19	139	-	1	-	19
Ill.	267	590	1	35	658	1	12	5	144
Mich.	112	134	-	19	391	1	8	3	3
Wis.	40	54	-	2	77	-	-	-	66
W.N. CENTRAL	198	305	3	14	363	35	12	21	468
Minn.	84	56	1	3	77	-	2	-	89
Iowa	8	17	1	2	31	-	-	-	127
Mo.	68	186	-	4	187	27	5	14	58
N. Dak.	1	4	-	-	3	-	-	1	39
S. Dak.	8	-	-	3	25	1	-	2	70
Nebr.	11	8	-	2	11	3	-	-	41
Kans.	18	34	1	-	29	4	5	4	44
S. ATLANTIC	4,257	4,433	2	107	2,236	13	21	153	1,102
Del.	19	9	-	-	16	-	-	-	1
Md.	263	249	-	11	185	5	4	24	455
D.C.	184	261	1	3	84	-	-	-	1
Va.	297	321	-	6	214	1	5	25	407
W. Va.	13	17	-	1	75	-	2	7	78
N.C.	395	299	-	34	322	6	1	41	9
S.C.	274	230	-	-	190	-	1	23	16
Ga.	802	911	-	10	426	1	1	30	117
Fla.	2,010	2,136	1	42	724	-	7	3	18
E.S. CENTRAL	1,096	1,130	-	46	1,074	9	3	24	244
Ky.	64	62	-	5	274	-	1	2	55
Tenn.	304	300	-	17	324	7	1	17	156
Ala.	452	406	-	11	270	-	-	3	33
Miss.	276	362	-	13	206	2	1	2	-
W.S. CENTRAL	4,226	4,198	-	38	1,353	54	17	143	660
Ark.	103	106	-	9	152	36	2	13	111
La.	854	885	-	-	208	2	3	-	19
Okla.	115	84	-	-	126	14	-	88	71
Tex.	3,154	3,123	-	29	867	2	12	42	459
MOUNTAIN	350	418	-	14	304	3	7	3	102
Mont.	5	3	-	12	34	1	1	1	66
Idaho	6	19	-	-	13	1	-	1	-
Wyo.	8	10	-	-	7	-	-	1	2
Colo.	84	115	-	-	31	-	1	-	6
N. Mex.	110	89	-	2	61	1	-	-	5
Ariz.	77	95	U	U	126	-	3	-	23
Utah	11	13	-	-	22	-	1	-	-
Nev.	49	74	-	-	10	-	1	-	-
PACIFIC	2,590	2,382	-	10	2,104	3	45	1	192
Wash.	71	79	-	-	107	2	2	-	2
Oreg.	54	61	-	8	94	-	-	-	-
Calif.	2,424	2,169	U	U	1,747	1	41	1	183
Alaska	7	8	-	-	25	-	-	-	7
Hawaii	34	65	-	2	131	-	2	-	-
Guam	-	1	U	U	2	-	-	-	-
P.R.	400	318	-	8	238	-	-	-	28
V.I.	9	11	U	U	1	-	-	-	-
Pac. Trust Terr.	-	-	U	U	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending July 2, 1983 (26th week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	676	468	143	29	15	21	46
Boston, Mass.	177	105	37	12	9	14	16
Bridgeport, Conn.§	39	39	-	-	-	-	2
Cambridge, Mass.	20	18	2	-	-	-	1
Fall River, Mass.	20	17	1	2	-	-	-
Hartford, Conn.	71	42	22	3	3	1	1
Lowell, Mass.	36	25	10	1	-	-	1
Lynn, Mass.	16	11	5	-	-	-	-
New Bedford, Mass	27	20	4	3	-	-	-
New Haven, Conn.	61	43	11	4	2	1	4
Providence, R.I.	67	42	20	2	-	3	4
Somerville, Mass.	10	7	3	-	-	-	2
Springfield, Mass.	36	23	10	-	1	2	7
Waterbury, Conn.	32	28	4	-	-	-	3
Worcester, Mass.	64	48	14	2	-	-	5
MID. ATLANTIC	2,338	1,557	522	140	59	60	101
Albany, N.Y.	60	41	12	3	2	2	-
Allentown, Pa.	10	5	4	1	-	-	-
Buffalo, N.Y.	116	66	42	1	2	5	9
Camden, N.J.	31	19	6	1	2	3	-
Elizabeth, N.J.	25	22	3	-	-	-	3
Erie, Pa.†	46	38	6	1	-	1	4
Jersey City, N.J.	55	39	13	1	1	1	-
N.Y. City, N.Y.	1,242	819	263	90	38	32	48
Newark, N.J.	69	36	21	9	1	2	7
Paterson, N.J.	22	16	6	-	-	-	-
Philadelphia, Pa.†	236	150	55	16	8	7	13
Pittsburgh, Pa.†	52	38	11	1	1	1	1
Reading, Pa.	35	29	4	-	1	1	-
Rochester, N.Y.	108	79	18	8	2	1	7
Schenectady, N.Y.	26	17	7	2	-	-	-
Scranton, Pa.†	32	23	8	-	1	-	2
Syracuse, N.Y.	81	47	29	3	-	2	2
Trenton, N.J.	40	31	6	2	-	1	1
Utica, N.Y.	23	19	3	1	-	-	1
Yonkers, N.Y.	29	23	5	-	-	1	3
E.N. CENTRAL	2,238	1,436	510	139	74	79	72
Akron, Ohio	60	40	9	1	3	7	-
Canton, Ohio	46	31	7	6	1	1	7
Chicago, Ill	547	332	144	36	16	19	12
Cincinnati, Ohio	145	94	32	7	7	5	15
Cleveland, Ohio	156	94	39	8	8	7	3
Columbus, Ohio	135	89	31	8	4	3	2
Dayton, Ohio	108	69	29	3	6	1	2
Detroit, Mich.	232	137	62	23	6	4	5
Evansville, Ind.	49	34	12	2	-	1	1
Fort Wayne, Ind.	56	38	10	6	2	-	3
Gary, Ind.	19	8	7	3	1	-	1
Grand Rapids, Mich.	68	51	11	2	1	3	3
Indianapolis, Ind.	151	96	28	10	7	10	3
Madison, Wis.	40	25	7	1	2	5	1
Milwaukee, Wis.	122	91	21	5	1	4	3
Peoria, Ill.	35	27	4	2	2	-	1
Rockford, Ill.	44	27	11	3	1	2	3
South Bend, Ind.	62	41	11	5	2	3	2
Toledo, Ohio	104	71	22	5	3	3	2
Youngstown, Ohio	59	41	13	3	1	1	3
W.N. CENTRAL	752	506	151	37	24	32	31
Des Moines, Iowa	60	40	9	4	4	3	3
Duluth, Minn.	24	18	2	2	1	1	1
Kansas City, Kans.	36	25	9	1	1	-	2
Kansas City, Mo.	128	85	25	11	3	2	7
Lincoln, Nebr.	44	30	7	1	1	5	4
Minneapolis, Minn.	78	47	20	4	-	7	1
Omaha, Nebr.	88	59	22	3	2	2	2
St. Louis, Mo.	170	117	31	8	6	8	5
St. Paul, Minn.	75	59	12	1	1	2	3
Wichita, Kans.	49	26	14	2	5	2	3
S. ATLANTIC	1,107	690	260	71	35	49	40
Atlanta, Ga.	147	91	30	14	5	7	3
Baltimore, Md.	240	146	62	15	7	10	6
Charlotte, N.C.	69	45	15	5	1	1	3
Jacksonville, Fla.	74	47	17	7	3	-	4
Miami, Fla.	93	53	28	7	1	4	3
Norfolk, Va.	62	44	11	1	2	4	3
Richmond, Va.	77	40	22	7	5	3	2
Savannah, Ga.	53	31	16	2	1	3	3
St. Petersburg, Fla.	70	62	5	-	1	2	4
Tampa, Fla.	82	52	17	5	2	6	4
Washington, D.C.	87	48	22	5	4	8	2
Wilmington, Del.	53	31	15	3	3	1	3
E.S. CENTRAL	745	469	174	53	29	20	28
Birmingham, Ala.	121	65	44	6	1	5	1
Chattanooga, Tenn.	72	46	16	7	2	1	3
Knoxville, Tenn.	35	23	7	2	1	2	1
Louisville, Ky.	117	81	19	11	3	3	6
Memphis, Tenn.	167	106	45	7	5	4	7
Mobile, Ala.	76	46	13	7	6	4	2
Montgomery, Ala.	44	30	6	3	5	-	2
Nashville, Tenn.	113	72	24	10	6	1	6
W.S. CENTRAL	1,542	892	370	131	80	66	46
Austin, Tex.	70	42	21	-	4	3	1
Baton Rouge, La.	39	23	11	2	3	-	3
Corpus Christi, Tex.	31	27	2	2	-	-	-
Dallas, Tex.	211	114	50	25	10	12	4
El Paso, Tex.	60	26	15	6	8	3	2
Fort Worth, Tex.	91	57	15	6	4	9	4
Houston, Tex.	523	284	139	52	32	16	10
Little Rock, Ark.	81	51	20	5	2	3	4
New Orleans, La.	122	75	22	9	6	10	-
San Antonio, Tex.	170	105	44	10	7	4	6
Shreveport, La.	66	44	13	6	2	1	3
Tulsa, Okla.	78	44	18	8	2	5	9
MOUNTAIN	586	406	107	34	15	21	27
Albuquerque, N.Mex.	62	40	12	8	1	1	5
Colo. Springs, Colo.	31	16	10	2	2	1	2
Denver, Colo.	111	67	30	7	2	5	-
Las Vegas, Nev.	80	49	20	6	4	1	10
Ogden, Utah	25	16	7	-	-	2	2
Phoenix, Ariz.§	134	120	1	2	5	3	3
Pueblo, Colo.	18	13	4	1	-	-	-
Salt Lake City, Utah	51	31	9	6	1	4	1
Tucson, Ariz.	74	54	14	2	-	4	4
PACIFIC	1,669	1,128	347	102	46	46	88
Berkeley, Calif.	16	10	3	3	-	-	-
Fresno, Calif.	78	54	14	8	1	1	3
Glendale, Calif.	24	15	8	1	-	-	1
Honolulu, Hawaii	81	53	16	8	3	1	13
Long Beach, Calif.	93	64	21	2	3	3	2
Los Angeles, Calif.	430	288	90	27	13	12	14
Oakland, Calif.	49	33	9	3	1	3	2
Pasadena, Calif.	30	25	5	-	-	-	2
Portland, Oreg.	126	88	25	7	3	3	8
Sacramento, Calif.	61	43	7	2	2	7	2
San Diego, Calif.	120	77	28	6	7	2	11
San Francisco, Calif.	143	97	32	9	1	4	8
San Jose, Calif.	156	97	42	9	4	4	11
Seattle, Wash.	150	105	25	10	7	3	7
Spokane, Wash.	65	43	15	3	1	3	4
Tacoma, Wash.	47	36	7	4	-	-	-
TOTAL	11,653††	7,552	2,584	736	377	394	479

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

TABLE V. Years of potential life lost, deaths, and death rates, by cause of death, and estimated number of physician contacts, by principal diagnosis, United States

Cause of morbidity or mortality (Ninth Revision ICD, 1975)	Years of potential life lost before age 65 by persons dying in 1981[1]	Estimated mortality February 1983		Estimated number of physician contacts February 1983[4]
		Number[2]	Annual Rate/100,000[3]	
ALL CAUSES (TOTAL)	9,879,590	172,790	967.1	98,295,000
Accidents and adverse effects (E800-E949)	2,587,140	6,650	37.2	4,329,000
Malignant neoplasms (140-208)	1,821,900	35,660	199.6	1,990,000
Diseases of heart (390-398, 402, 404-429)	1,621,290	67,960	380.4	5,782,000
Suicides, homicides (E950-E978)	1,403,560	3,570	20.0	—
Cerebrovascular diseases (430-438)	275,000	13,970	78.2	749,000
Chronic liver disease and cirrhosis (571)	267,350	2,250	12.6	109,000
Pneumonia and influenza[5] (480-487)	123,420	5,910	33.1	1,984,000
Chronic obstructive pulmonary diseases and allied conditions (490-496)	116,280	6,320	35.4	2,252,000
Diabetes mellitus (250)	105,960	3,000	16.8	2,487,000
Prenatal care[6]				2,761,000
Infant mortality[6]		3,300	12.0 /1,000 live births	

[1]Years of potential life lost for persons between 1 year and 65 years old at the time of death are derived from the number of deaths in each age category as reported by the National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSR), Vol. 30, No. 13, December 20, 1982, multiplied by the difference between 65 years and the age at the midpoint of each category. As a measure of mortality, "Years of potential life lost" underestimates the importance of diseases that contribute to death without being the underlying cause of death.

[2]The number of deaths is estimated by CDC by multiplying the estimated annual mortality rates (MVSR Vol. 32, No. 3, June 17, 1983, pp. 8-9) and the provisional U.S. population in that month (MVSR Vol. 32, No. 2, May 12, 1983, p.1) and dividing by the days in the month as a proportion of the days in the year.

[3]Annual mortality rates are estimated by NCHS (MVSR Vol. 32, No. 3, June 17, 1983, pp. 8-9), using the underlying cause of death from a 10% systematic sample of death certificates received in state vital statistics offices during the month and population estimates from the Bureau of the Census.

[4]IMS America *National Disease and Therapeutic Index* (NDTI), Monthly Report, February 1983, Section III. This estimate comprises the number of office, hospital, and nursing home visits and telephone calls prompted by each medical condition based on a stratified random sample of office-based physicians (2,100) who record all private patient contacts for 2 consecutive days each quarter.

[5]Data for "infectious diseases and their sequelae" as a cause of death and physician visits comparable to other multiple-code categories (e.g., "malignant neoplasms") are not presently available.

[6]"Prenatal care" (NDTI) and "Infant mortality" (MVSR Vol. 32, No. 2, May 12, 1983, p.1) are included in the table because "Years of potential life lost" does not reflect deaths of children < 1 year.

Campylobacteriosis — Continued

Raw milk and cookies were also served at the second farm. Illness was associated with quantity of milk consumed. Twenty-five of the 26 ill persons each consumed ½ cup or more of raw milk, and 10 of 15 well persons each consumed the same amount of raw milk (p = 0.03). Illness was not associated with eating cookies, touching farm animals, or consuming raw milk from other sources or with the presence of animals in the home. Members of the farm family routinely drank raw milk, and none reported illness. There were no illnesses among the herd, and no cows were cultured. Gastrointestinal illnesses, probably representing secondary transmission, occurred in households of six patients.

Reported by Microbiology Laboratory, JC Blair Hospital; DJ Blessing, M Thompson, B Fisher, D Schooley, MD, MJ Kramer, South Central District; TM DeMelfi, MA McCarthy, EJ Witte, MD, Div of Epidemiology; CW Hays, MD, State Epidemiologist; Bureau of Laboratories, Pennsylvania Dept of Health; J Smucker, Milk Safety Br, Food and Drug Administration, Washington, DC; Enteric Diseases Br, Zoonoses Activity, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Raw milk is an important vehicle in the transmission of *Campylobacter.* In 1981 and 1982, five of 10 and six of 11 foodborne *Campylobacter* outbreaks reported to CDC were traced to raw milk consumption. Outbreaks of campylobacteriosis have followed consumption of raw milk on school-sponsored trips in Michigan, Minnesota, and Vermont; a field trip in Maryland resulted in an outbreak of salmonellosis and campylobacteriosis. These, and similar occurrences in England, point out the necessity of protecting school children from exposure to unpasteurized dairy products while on outings (*1*). The lack of illness in similarly exposed members of the farm families might be explained by gut immunity established by frequent exposure to *C. jejuni* through direct contact with bovine feces and routine ingestion of raw milk. Failure to isolate *C. jejuni* from the epidemiologically implicated raw milk, as noted in these two outbreaks, is an almost universal problem (*2,3*) and is probably due to the insensitivity of present microbiologic techniques.

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1. Robinson DA, Jones DM. Milk-borne *Campylobacter* infection. Br Med J 1981;282:1374-6.
2. Potter ME, Blaser MJ, Sikes KR, et al. Human *Campylobacter* infection associated with certified raw milk. Am J Epidemiol 1983;117:475-83.
3. Taylor DN, Porter BW, Williams CA, Miller HG, et al. *Campylobacter enteritis:* a large outbreak traced to commercial raw milk. West J Med 1982;137:365-9.

Perspectives in Disease Prevention and Health Promotion

Patterns of Alcohol Use among Teenage Drivers in Fatal Motor Vehicle Accidents — United States, 1977-1981

From 1977 to 1981, data from the Fatal Accident Reporting System (FARS)* show that the overall proportion of drivers with measurable blood alcohol concentrations (BACs)† steadily increased (Figure 1). The percentage of 16- to 19-year-old drivers (defined as "teenage") tested who had positive BACs rose from 20% in 1977 to 28% in 1981—an 8% increase. Comparable increases occurred among young adult (20-24 years of age) and adult drivers (25 years of age or older). During this same time period, the percentage of drivers

*Department of Transportation, National Highway Traffic Safety Administration, 1977-1981 data tapes.

†A BAC of 0.10% (grams/100 ml%) is designated as the level of legal intoxication in most states. Drivers with "positive" BAC test results of equal to or greater than 0.01 include not only legally intoxicated drivers but also other drivers with measurable levels of blood alcohol below that defining legal intoxication.

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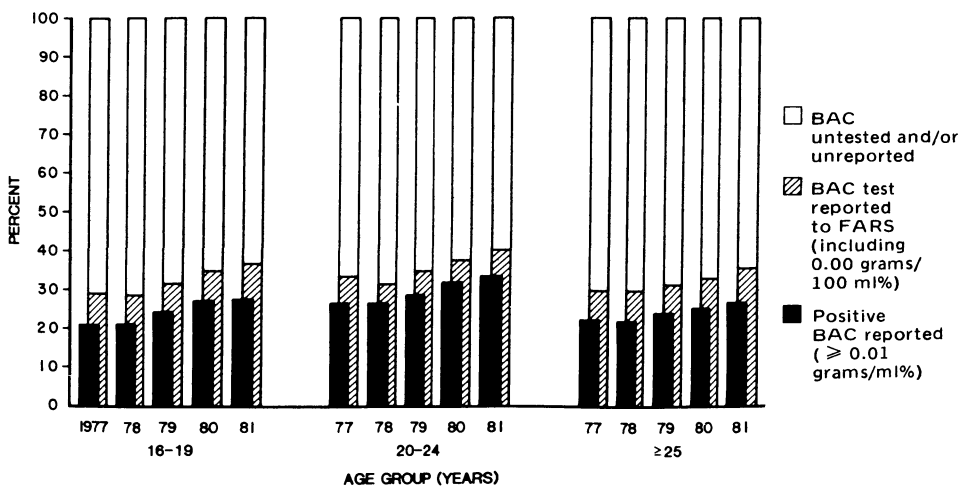
reported to have a BAC test (including persons whose reported BAC was zero) also increased—e.g., the proportion of teenage drivers with reported BAC test results increased 9%.

In 1981, BAC results showed that 21% of the 8,790 teenage drivers involved in fatal motor vehicle accidents had been drinking alcoholic beverages. However, the extent of alcohol use among drivers involved in fatal motor vehicle accidents varied markedly depending on the driver's sex and age, number of vehicles involved, time of day, and day of the week the accident occurred. More single vehicle fatal accidents (SVFAs) than multiple vehicle fatal accidents (MVFAs) have been estimated to involve drivers with high BAC levels (*1*). In 1981, 28% of the 4,199 teenage drivers involved in SVFAs had positive BACs, in comparison with 14% of the 4,591 teenage drivers involved in MVFAs.

A more detailed analysis of teenage and other drivers involved in SVFAs is illustrated in Figure 1 and shown in Table 2. Five times as many male drivers as female drivers were involved in SVFAs in 1981. Teenage male drivers involved in SVFAs were as likely as adult male drivers to have been drinking an alcoholic beverage. Approximately 29% of each group had positive BACs. Fewer teenage female drivers than male drivers were involved in alcohol-related SVFAs, although 23% of the former had positive BACs. Sixteen percent of adult female drivers involved in SVFAs had positive BACs.

The greatest risk of involvement in an alcohol-related SVFA for all male drivers was at night on weekends: 35% of teenage male drivers, 40% of young adult male drivers, and 37% of adult male drivers involved in SVFAs at such times had positive BACs. In contrast, across the three age groups of females analyzed, 24%-35% of those involved in SVFAs on weekday nights had positive BACs, compared with 25%-31% of those involved in SVFAs on weekend nights. A higher proportion of male drivers involved in SVFAs on weekday nights were more likely to have a positive BAC, with percentages ranging from 30-36 across the three age groups examined.

FIGURE 1. Percentage of all single vehicle fatal accidents (SVFAs) for which blood alcohol concentrations (BACs) were reported to the Fatal Accident Reporting System (FARS), by age group and year — United States, 1977-1981*



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Results of two national probability surveys (*2,3*) confirm the FARS findings. In these surveys, a larger proportion of young adult drivers generally reported alcohol use than did teenage or adult drivers. Although the survey data indicate that alcohol use among teenagers is a widespread national problem, proportionately more people in their twenties report higher levels of alcohol use and problems related to it than do members of any other age group. The FARS data demonstrate that the risk of a fatality from an alcohol-related motor vehicle accident is high for teenagers and that the risk of fatality further increases in the 20-24 year age group.

Reported by C Lowman, PHD, N Verdugo, MA, H Malin, MA, S Aitken, DPA, Alcohol Epidemiologic Data System, Div of Biometry and Epidemiology, National Institute of Alcohol Abuse and Alcoholism; Div of Surveillance and Epidemiologic Studies, Epidemiology Program Office, CDC.

Editorial Note: Interpretations based on the FARS data cannot be relied upon strictly, because of the data's incompleteness. However, these findings could indicate 1) that an increase in the number of drivers using alcohol before being involved in a fatal crash led to an increase in the number of drivers suspected of alcohol use and, therefore, given a BAC test or 2) that the increase in the number of drivers who use alcohol and then drive is an artifact of improved BAC testing and reporting. The findings in Figure 1 indicate that the 1981 BAC data are more complete than FARS data for earlier years and, therefore, may be more representative of patterns of alcohol use.

Recent FARS data indicate a rapid decrease of 15% in the total number of fatal accidents in the period 1980-1982, with the major decrease occurring in 1982. After adjusting the 1980-1982 data for population changes in specific age groups, the decrease in fatalities is 5% greater among 15-19 year olds than among other age groups (*4*). One interpretation of the 1981 FARS data suggested that loss of work and discretionary income related to the recession may have had a greater impact on the ability of teenage drivers to afford to operate a motor vehicle and to purchase alcoholic beverages than on older drivers (*5*). Data on changes in mortality rates lend support to this theory; death rates from traffic fatalities among 16-19 year olds decreased from 50/100,000 persons in 1979 to 43/100,000 in 1981 (*6*). If subse-

TABLE 2. Percentage of drivers in single vehicle fatal accidents (SVFAs) who had used alcohol, by age, sex, and time the accident occurred* — United States, 1981 (Fatal Accident Reporting System)

	Weekdays				Weekends			
	Day*		Night†		Day§		Night¶	
	Total Drivers	(Percentage BAC ≥ 0.01)**	Total Drivers	(Percentage BAC ≥ 0.01)	Total Drivers	(Percentage BAC ≥ 0.01)	Total Drivers	(Percentage BAC ≥ 0.01)
				Males				
Age (years)								
16-19	702	(15.7)	830	(29.9)	537	(28.8)	1,357	(34.6)
20-24	1,033	(22.2)	1,350	(35.9)	882	(34.7)	1,886	(39.6)
≥ 25	3,500	(16.6)	3,227	(34.2)	1,808	(27.2)	3,598	(36.8)
				Females				
Age (years)								
16-19	197	(12.7)	188	(28.2)	120	(24.2)	231	(28.1)
20-24	226	(13.7)	230	(35.2)	156	(21.8)	280	(31.8)
≥ 25	993	(6.8)	563	(24.3)	426	(16.9)	545	(25.3)

*3:00 a.m.-5:59 p.m. Monday through Friday.

†6:00 p.m.-2:59 a.m. Monday p.m. through Friday a.m.

§3:00 a.m.-5:59 p.m. Saturday and Sunday.

¶6:00 p.m.-2:59 a.m. Friday p.m. through Monday a.m.

**Percentage of all drivers in SVFAs.

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quent analyses show that economic factors influence these events, numbers of fatal motor vehicle accidents may increase with economic recovery and growth.

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6. Malin HJ, Trumble J, Kaelber CT, Lubran B. Alcohol-related highway fatalities among young drivers—United States. MMWR 1982;31:641-4.

Erratum, Vol. 32, No. 25

p. 330. The article, "Diarrheal Diseases Control Program: Global Activities, 1981-1982," should be credited to the World Health Organization's *Weekly Epidemiological Record* 1983;58:157-8.

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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report,* Centers for Disease Control, Atlanta, Georgia 30333.

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